

Atty. Ref.:60732-300101

Page 5 of 11

RECEIVED
CENTRAL FAX CENTER
JAN 30 2007

Remarks/Arguments:

Applicant wishes to thank the Examiner for her detailed comments. As Examiner has chosen to group her comments by section, Applicant shall address each of these sections and points in turn.

Claim Rejections - 35 USC § 103

1. No response is believed necessary.

2. Examiner has stated:

"Claims 17-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brandon et al, US Patent No. 6114007 in view of Troutman et al, US Patent Publication 2004/0002559.

"Brandon et al discloses fire resistant, composite molding compositions containing an effective amount of a flame retardant additive.... Also disclosed is a method of making suitably fire resistant composites, and articles formed therefrom. This method includes blending a resin, reinforcing fiber and filler in a mixer adding a liquid resin which would function as a lubricant, and extruding the mixture through a die. See col. 3, line 19 through col. 5, line 47.

"The inorganic filler, when used, may be used at any desired amount, for example, at a concentration of from about 20% by weight to about 90% by weight of the composition....

"Various additional additives employed in the invention include fillers, catalysts, colorants, mold release agents and inhibitors....

"Troutman et al provides flame retardant coating compositions and articles coated therewith, which compositions comprise (A) a coating and (B) an effective flame retarding amount of a mixture of (i) at least one compound selected from the group consisting of the (a) sterically hindered nitroxyl stabilizers, (b) sterically hindered hydroxylamine stabilizers and (c) sterically hindered alkoxyamine stabilizers and (ii) at least one conventional flame retardant selected from the group consisting of (d) organohalogen flame retardants, (e) organophosphorus flame retardants, (f) isocyanurate flame retardants and (g) melamine based flame retardants. The coated articles are for example iron, steel, stainless steel, aluminum and other non-ferrous metals, wood, plywood, paper, cardboard, chip board, particle board, plastics, thermoplastics, epoxies, neoprene, rubber

"Patentee includes fillers ... Suitable substrates for the patented coatings include ... thermoplastics, thermoplastic polyolefin, epoxies, neoprene, rubber and composites.

"The patented coatings may be applied to exterior siding,

"The patented compositions may contain additional components such as pigments, dyes, plasticizers, antioxidants, thixotropic agents, levelling assistants, basic costabilizers, further light stabilizers like UV absorbers and/or sterically hindered amines, metal passivators, metal oxides, organophosphorus compounds, hydroxylamines, and mixtures thereof, especially

Atty. Ref.:60732-300101

Page 6 of 11

pigments, phenolic antioxidants, calcium stearate, zinc stearate, UV absorbers of the 2-(2'-hydroxyphenyl)benzotriazole and 2-(2-Hydroxyphenyl)-1,3,5-triazine classes, and sterically hindered amines. The compositions may also comprise silica. See page 1, paragraph [0018] through page 3, paragraph [0065] and page 19, paragraph 0323 through page 20, paragraph[0337]."

Examiner generalizes that:

"Because Troutman et al documents that various additives are conventional in compositions used to form components for building materials such as roofing, the inclusion of metal stearates, talc silica and metal oxides in the molding compositions of Brandon et al would have been obvious to one of ordinary skill in the art at the time of applicant's invention. The selection of a virgin polymer or recycled polymer is usually determined by cost considerations and there is nothing unobvious in such a limitation. Brandon discloses such a wide variety of building components that may be formulated by the patented method that panels and embossed components would be considered obvious to the ordinary practitioner of this art."

Response to Arguments

3. "Applicant's arguments filed 9/14/06 have been fully considered but they are not persuasive.

4. "In response to applicant's argument that the references fail to show certain features of applicant's invention, is noted that the features upon which applicant relies (i.e., that the presently claimed composition is thermoplastic composition as opposed to a thermoset composition as disclosed by Brandon et al) are not recited in the rejected claims... Applicant's claims are directed to a formulation for synthetic building materials comprising 10-35% Of a thermoplastic resin, such as PVC. Brandon et al discloses a formulation for synthetic is building materials comprising PVC in an amount ranging from 1-75% by weight.

5. "Troutman et al is relied upon to document that various additives are conventional in compositions used to form components for building materials such as roofing, the inclusion of the metal stearates, talc silica and metal oxides of Troutman et al in the molding compositions of Brandon et al would have been obvious to one of ordinary skill in the art at the time of applicant's invention."

Applicant notes that the Examiner's Response to Arguments states that the feature that the presently claimed composition is thermoplastic composition as opposed to a thermoset composition as disclosed by Brandon et al) is not recited in the rejected claims. Claim 17, as presently amended, positively recites:

A formulation for thermoplastic synthetic building material which is formulated for extrusion processing, comprising:

filler material of proportions of 65% - 90% of overall composition;
thermoplastic resin of proportions of 10% - 35% of overall composition; and

W:\RoofRec--60732\300101\RFOA RoofRec.doc

Atty. Ref.:60732-300101

Page 7 of 11

an extruder processing stabilizer/lubricant, wherein said filler material, said thermoplastic matrix and said extruder processing stabilizer/lubricant combine to form a thermoplastic material.

5 Likewise, Claim 29, as currently amended, now recites:

A synthetic thermoplastic building material formulated for commercial extrusion processing, said material comprising:
10 filler material of proportions of 65% - 90% of overall composition;
thermoplastic resin of proportions of 10% - 35% of overall composition; and
extruder processing stabilizer/lubricant which is chosen from a group consisting of
metallic stearate, hydrocarbons, fatty acids, esters, amides fluoropolymers, silicones, and boron
nitride, wherein said filler material, said thermoplastic resin and said extruder processing
15 stabilizer/lubricant combine to form a thermoplastic material.

As stated in the previous Response, the difference between thermosetting materials and thermoplastic materials is very important. It was thought that the previous inclusion of the limitation that the building material must be "formulated for extrusion processing" and the recital of "thermoplastic resin" was enough to
20 distinguish the present formulation from that of *Brandon*, which is clearly designated as a thermosetting resin in the Abstract as well as the text of the specification. Thermosetting plastics would not be thought of by one skilled in the art as being formulated for extrusion processing, and therefore could not be considered to be valid prior art.

25 However, in order to further distinguish the present invention from the *Brandon* reference, the presently amended wording makes it clear that the overall mixture of the present invention is a thermoplastic material, both in the preamble and the body of the claim.

This is in contrast to *Brandon*, which uses a matrix resin of thermoset
30 polyester, and then can use PVC as an inorganic filler (col. 4, lines 55-61). PVC in itself is a thermoplastic material. However if it is compounded into a thermoset

WARoofRoc--60732\300101\RFOA RoofRoc.doc

Atty. Ref.:60732-300101

Page 8 of 11

resin (be it polyester, epoxy or whatever) the resulting cured matrix becomes a thermoset. The resulting material when cured will not be extrudable. On curing and cross-linking of the polymers in the thermoset, they would form a sold (non thermoplastic) matrix. Cross-linking action of the molecules produces the hardness
5 of the thermosetting material. If it is heated, it will not melt and reform to its original shape, and is therefore no longer thermoplastic. I am informed by a materials specialist that the introduction of as little as 25% (and perhaps even less) thermoset material in a mixture is enough to determine that the overall mixture will be thermosetting.

10 A common example of thermosetting material that the Examiner may be familiar with is that of epoxy putty which is a two part mix of highly filled thermosetting polymer combined with a hardener to form a solid cross linked matrix for filling purposes.

Brandon is an example of a fire resistant thermosetting composite
15 formulation by the adding of polyvinyl chloride (PVC) to a thermosetting resin matrix. As referred to above, the addition of PVC, a type of thermoplastic material, to thermosetting material does not transform it to a thermoplastic material. It is still a thermoset. *Brandon* also states that its formulation is compatible with inorganic fillers but these fillers are optional. The material of the formulation of *Brandon* is
20 designed to be processed in molds, as is standard practice in the industry for thermoset materials, but is unsuited for extrusion processes.

In contrast, in the present application, thermoplastic material, such as PVC, is not a filler material, but is used with other filler materials of several kinds to produce a thermoplastic material which becomes plastic when melted, and is well-
25 suited for extrusion operations.

W:\RoofRec--60732\300101\RFOA RoofRec.doc

Atty. Ref.:60732-300101

Page 9 of 11

Troutman discloses flame retardant coatings. It provides very thin layers of flame retardant materials which are applied to a great variety of base materials.

The only references to thermoplastic materials that Applicant can find are a reference in paragraph 0032, where "an extruded thermoplastic coating" is recited.

5 By its nature, a coating is preferably thin, and the use of fillers, as required by the claims of the present invention would not be contemplated by *Troutman*. Bulk is naturally undesirable in coating layers, and Applicant asserts that this use as a thin coating teaches away from the formulation of the present invention. Without the high proportion of fillers added to the thermoplastic resin required by the claims of
10 the present invention, there will be little need for the extruder stabilizer/lubricants, also required by the present invention. These extruder stabilizer/lubricants solve a specific problem with extrusion of the high filler/thermoplastic mixture, as will be discussed in more depth below. If high concentrations of fillers are not present, as they are certain not in a "coating", the problem does not exist to be solved.

15

Examiner also states that *Troutman* teaches the use of thermoplastics as a suitable substrate for coating with the flame retardant material. This of course is quite different than the formulation or the synthetic building material of the present invention. The present invention does not utilize a coating, but is instead a specific
20 material extruded from minerals and thermoplastic which is wholly fire resistant in itself. It does not use the fire retardants referred to in *Troutman*. It is not applied as a coating to another material. The fire resistance is imparted by the mineral fillers in the extruded thermoplastic binder. This, in fact, is a substantial advantage of the present invention over *Troutman*, as it is not necessary to fabricate a substrate
25 material and then coat it with flame retardant. The material is fire retardant in

W:\RoofRec-60732\300101\RFOA RoofRec.doc

Atty. Ref.:60732-300101

Page 10 of 11

itself. This also further emphasizes the inapplicability of *Troutman* as a reference. If *Troutman* provided teachings of the present invention, flame retardant coatings would not be necessary. The fact that *Troutman* is involved with producing flame retardant coatings shows that it has not contemplated the formulation of the present
5 invention.

Thus Applicant respectfully asserts that it cannot be fairly said that *Brandon* or *Troutman*, either singly or in combination, teach or fairly suggest the thermoplastic material formulation of Claims 17 and 29. These features are not
10 found nor fairly suggested nor made obvious by the *Brandon* and *Troutman* references either alone or in any combination of the cited prior art.

Applicant therefore respectfully asserts that Claims 17 and 29 cannot be said to be obvious in view of the combination of the cited references. Claims 18-28 and
15 30 - 41, as dependent upon Claims 17 and 29 respectively, all inherit these assertedly novel and non-obvious features. Therefore, Applicant respectfully asserts that these claims are not obvious in view of the cited combination of references. Applicant therefore respectfully requests that the rejection be withdrawn and Claims 17 - 41, as amended, be allowed.

W:\RoofRec--60732\300101\IRFOA RoofRec.doc

JAN 30 2007

Atty. Ref.:60732-300101

Page 11 of 11

Conclusion:

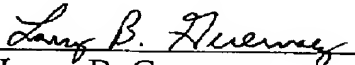
Applicant has endeavored to put this case into complete condition for
5 allowance. It is thought that the §103 rejections were unfounded on the references
cited. Applicant therefore respectfully asks that the rejections be withdrawn and
that allowance of all claims presently in the case now be granted.

If the Examiner would like to discuss any of the points involved in the
Response, she is urged to contact Applicant's Attorney at the numbers included
10 below.

IPLO
1901 South Bascom Avenue, Suite 660
Campbell, CA 95008

Telephone: 408 558-7887
Facsimile: 408 558-9960
E-mail: lguernsey@iplo.com
LBG:lbg

Respectfully Submitted,


Larry B. Guernsey
Reg. No. 40,008